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Taxonomic notes about ichneumon fly
***Coelichneumon torsor* (THUNBERG 1822) and illustrated**
description of *Hybophorellus injucundus* (WESMAEL 1852)
(Hymenoptera, Ichneumonidae, Ichneumoninae)

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A b s t r a c t : The article presents data on the systematic and ecology of *Coelichneumon torsor* (THUNBERG 1822) on the southern border of its distribution. Peculiarities of males and females morphology, distinguishing them from closely-related species *C. haemorrhoidalis* (GRAVENHORST 1820) and allowing to confirm of their independent status are discussed in detail. The article includes the tables with color illustrations both the total image of male and female of the species and taxonomically important parts of a body with images of theirs taxonomic characters too. The detailed descriptions of the males and females of *Hybophorellus injucundus* (WESMAEL 1854) are presented. Peculiarities of female's morphology are illustrated by color images.

K e y w o r d s : Ichneumonidae, Ichneumoninae, Ichneumonini, *Coelichneumon*, *Hybophorellus*, taxonomy, description, image.

Introduction

Regular collections of Ichneumonidae on raised bogs with usage of Malaise traps are conducted since 1986. The bulk of materials have been received in the Beresina Biosphere Natural Reserve. Partially the collections were conducted by the same method in the Pripyat National Reserve (51°58'N, 27°57'E) on the southern border of distribution of raised bogs in the plains.

It is in these type ecosystems, the species, that discussed below was found in the mass number. The females were not carrying any kind of clear morphological features allowing clearly to separate them from females of *C. haemorrhoidalis* (GRAVENHORST 1820), found in the neighboring ecosystems. However, despite the lack of specific morphological features, general view of females of this species indicated in favor of its independent status.

Distinct differences, especially the abundance of white pattern are observed in males of the species in contrast to the males of *C. haemorrhoidalis*, which inhabit in ecosystems bordering with the raised bog.

Since subspecific status is not possible with sympatric distribution (MAYR 1963), we

arrived at the conclusion about independent status of this species, originally defined it as a new for science.

Finally, Dr. Matthias RIEDEL, who studied the type material of the genus *Coelichneumon* THOMSON of the northern regions of Europe, courtesy identified the species as *Coelichneumon torsor* (THUNBERG). In his work M. RIEDEL (2008) provides some morphological features that allow differentiating females of *C. haemorrhoidalis* and *C. torsor*. Males of these species have distinct morphological differences, as described below in detail. The ratio of males to females in collections by Malaise traps was 1:6,4.

The terminology used for description of the morphology of the ichneumon flies, given in detail previously (TERESHKIN 2009).

Results

Raised bogs (Pinetum sphagnosum) are very peculiar intrazonal northern ecosystems. More than 20-years regular investigations of Ichneumoninae in this type of biotopes with help of Malaise traps gave quite interesting results.

Ulesta nigroscutella TERESHKIN, *Baranisobas sinetuber* TERESHKIN, *Cratichneumon unificatus* TERESHKIN, *Barichneumon scopulatus* TERESHKIN and, at last, *Clypeodromus thyridialis* TERESHKIN, with new tribal status have been described from these ecosystems (TERESHKIN 1992, 1993, 2002, 2003a,b, 2004, 2009).

Careful long-term investigation of ecological peculiarities of *Cratichneumon viator* (SCOPOLI) on raised bogs has shown that males of *Cratichneumon pratincta* HEINRICH with red legs, is only a manifestation of intraspecific polymorphism of *C. viator* (SCOPOLI) (TERESHKIN 2003b).

An opposite example, testifying in favor of *Coelichneumon torsor* independent status is given by *Barichneumon scopulatus* TERESHKIN. Like *Coelichneumon torsor*, males of *Barichneumon scopulatus* have abundant white coloration (pattern), including white annulus on flagellum, which lacking at *B. praeceptor* (THUNBERG 1822). At the same time, the females of this species are distinguished from females of *B. praeceptor* by the presence of dense white scopa on hind coxae, whereas at females of *Coelichneumon torsor* (THUNBERG) morphological differences of analogous level from females *C. haemorrhoidalis* were not determined.

Another peculiarity of the insect fauna of raised bogs is connected with their intrazonality. Raised bogs are northern ecosystems. Area of research is situated on the southern border of their distribution. Therefore, the probability of penetration of boreal species to south through ecosystems of this type would be quite high. This is supported by the findings of the species of genus *Ichneumon* LINNAEUS with red metanotum in this type of ecosystem. It is *Ichneumon alpestriops* HEINRICH, *I. emancipatops* HEINRICH and *I. connectens* ROMAN, for which the boreal-alpine distribution is characteristic. Enumerated species inhabit the plains of central part of eastern Europe in these, northern ecosystems and they are not found in ecosystems of other types (TERESHKIN 1996, 2001).

In our opinion, it is the latter example that provides an explanation to massive presence of the boreal species of *Coelichneumon torsor* on the southern border of distribution of raised bogs in the plains.

***Coelichneumon torsor* (THUNBERG) (Plate 1, 2)**

Ichneumon torsor THUNBERG 1822 - Mém. Acad. Imp. Sci. St. Pétersburg **8**: 256.

Ichneumon torsor: THUNBERG 1824 - Mém. Acad. Imp. Sci. St. Pétersburg **9**: 297.

Coelichneumon torsor: RIEDEL 2008 - Entomofauna. **29** (12): 191-192.

M a t e r i a l e x a m i n e d: Byelorussia, Beresina Nat. Reserve, Postrezh'e, 54°38'08.78"N, 28°21'08.37"E, Pinetum sphagnosum, 42 ♀ ♀, 270 ♂ ♂, 1987-1998, A.Tereshkin leg.

M o r p h o l o g y :**F e m a l e**

F l a g e l l u m: Stout, bristle-shaped, with 41 segments, with white annulus on segments 5-11, beyond white annulus strongly widened and flattened ventrally; first segment short, only 1,3 times longer than width at apex from lateral, already segment 4 square; last but one segment square; most broad segment ventrally 2,4 times wider than breadth. Flagellum 1,6 times shorter than the front wing and 2,7 times shorter than body length.

H e a d: Head contour from front slightly narrowed downwards, temples from front visible almost up to middle of eye, head slightly transversal, 1,2 times wider than height, genae short, 7 times shorter than height of eye; head from above transversal, 1,7 times wider than length on an external contour. Vertex from lateral gradually slanting down to occipital carina; temples long, 1,3 times longer than longitudinal diameter of an eye at the middle, not narrowed downwards, from above roundly, rather slightly narrowed behind eyes; occipital carina sharp, from above rather strongly and roundly impressed, but far not reach level of eyes and hind ocelli; hypostomal carina not visible from lateral, meeting with occipital carina before mandible base; length of abscissula 2,5 times lesser than mandible base width; genae short, malar space 1,4 times shorter than the mandible base width; mandibles rather long, parallel-sided at most part, teeth large, lower two times shorter than upper one, situated in the same plane; clypeus flat, separated from middle field of face by slight impression, approximately 2,7 times wider than height, front margin straight with apical wrinkles medially, lateral margins slightly thickened; clypeal foveae small, narrow; labrum not protrude from under clypeus; middle field of face distinctly limited, in middle equal by length to lateral fields; lateral fields swollen; antennal cavities small, deeply impressed, almost reach borders of eyes but far not reach front ocellus level, laterally without tubercles and with distinct interantennal tubercle; ocelli small, slightly convex, diameter of lateral ocellus 1,7 times less than distance from ocellus to eye; ocellar triangle expressed, but slightly elevated. Surface of head and clypeus with large punctures to wrinkled at upper part of middle field, shining; frons on border with antennal cavities wrinkle-punctured with microsculpture; temples with smooth punctures.

T h o r a x: Collar of pronotum long with straight front margin (from above); transverse furrow of pronotum narrow, deep, not interrupted by keel; pronotal ridge not thickened; epomiae sharp; pronotal base gradually curved, almost straight with very sharp apical angle; surface of pronotum wrinkled in lower half and densely punctured in upper one. Mesonotum slightly convex, with equal breadth and width; notauli only just marked at base; surface of mesonotum very densely punctured with microsculpture and slight shine; axillary tongue developed, but weak; subalarum narrow, sharpened at hind half; prepectal

carina sharp, far not reach pronotum, considerable part of prepectus visible from lateral; speculum shining, only dorsally with big individual punctures, polished; mesopleural fovea sharp, deeply impressed; mesopleural suture straight, deep, interrupted by strong ribs; mesopleurae without distinct bend; sternauli not developed, only just visible as slight impressions at base; longitudinal groove of mesosternum limited from behind by high carina; scutellum flat, evenly slanted to postscutellum, not carinated laterally, horizontal surface smooth, shining, superficially wrinkly-punctured. Hind margin of metanotum with sharp triangle projections opposite lateral longitudinal carinae. Propodeum from lateral steeply and gradually sloping from base of area superomedia to apex; area superomedia rectangular, elongated, with rounded front margin, from front and behind weakly limited; without costulae; basal area long, convex with distinct lateral carinae; coxal carina sharp; apical transverse carina high elevated; spiracles long, slit-shaped, 2,7 times longer than breadth. First lateral field punctured by big punctures, second lateral field and area spiraculifera roughly wrinkly-punctured to wrinkled; mesopleurae smoothly wrinkly-punctured, shining.

Legs: Strong. Tibiae of front and middle legs with strong spinules. Claws large, long, smooth, sharply, almost at right angle curved almost at middle and slightly widened at base. Hind coxae without scopa.

Wings: Areolet pentagonal with very narrow base, practically quadrangular, asymmetrical, external vein of apex longer than internal one; stigma narrow, light; radial cell narrow and long, radius sinuous; nervulus interstitial, strongly curved at apex; ramulus long; veins of both of wings dark; membrane of wing hyaline. Length of front wing 1,7 shorter than body length.

Abdomen: Abdomen from above long, fusiform with distinct constriction between 2nd and 3rd tergites, sharply oxygygous; second tergite from above 1,2 times longer than width at apex; sheath of ovipositor protrude behind apex on length of tergite 7. First tergite from lateral with gradual passage to postpetiolus, carinated by lateral carinae and sculpturated between them by sharp transversal ribs; from above petiolus sharply broadened to postpetiolus; distance between spiracles distinctly more than distance from spiracles to hind margin of tergite; middle field of postpetiolus sharply carinated but slightly elevated; its surface delicately longitudinally striated with sparse punctures. Gastrocoeli deeply impressed and slightly oblique; thyridiae slightly expressed, 1,3 times narrower than interval between them; lunulae distinct, in a form of slight impressions of moderate size behind middle of tergite; interspace between gastrocoeli with sharp longitudinal wrinkles, other medial part of second tergite irregularly longitudinally-wrinkled, lateral surface of second and third tergites entirely densely punctured, with microsculpture, tergite 4 very densely punctured by superficial punctures, other tergites smooth. Sternites of abdomen with exception of hypopygium unsclerotized.

Coloration: Head and thorax entirely black; head with narrow yellow stripes on internal orbits at level of antennal cavities. Abdomen entirely red with darkened base of first tergite and sheath of ovipositor. Coxae, trochanteres I and most part of femora of all the legs black; trochanteres II, base and apices of femora, tibiae and tarsi reddish-brown, tibiae of middle and hind legs darkened; front tibiae and tarsi partially with yellow pattern.

Size: Body length: 11,1-16,2; flagellum: 5,7-6,0; front wing: 9,2-9,6 mm.

Male

Flagellum : Stout, bristle-shaped, with 41-43 segments, with white annulus on segments (9)10-16(17), beyond middle not widened and not flattened ventrally; first segment short, only 1,7 times longer than width at apex from lateral, already segment 5 square; flagellum ribbed dorsally practically from base, with distinct black short-oval tyloides on segments 5-18, black, often reddish ventrally. Flagellum 1,2 times shorter than the front wing and 1,7 times shorter than body length.

Head : Head contour from front slightly narrowed downwards, head slightly transversal, 1,2 times wider than height, genae short, 10,7 times shorter than height of an eye; head from above 1,8 times wider than length on external contour. Vertex from lateral gradually slanting down to occipital carina; temples long, 1,2 times longer than longitudinal diameter of an eye at the middle, only just narrowed downwards, from above roundly, rather strongly narrowed behind eyes; occipital carina sharp, from above strongly and roundly impressed, but far not reach level of eyes and hind ocelli; hypostomal carina not visible from lateral, meeting with occipital carina before mandible base; length of abscissula 2,4 times lesser than mandible base width; malar space 4,3 times shorter than the mandible base width; mandibles rather narrow, long, parallel-sided at a most part, teeth large, lower two times shorter than upper one, situated in the same plane; clypeus flat, separated from middle field of face by impression, approximately 2,6 times wider than height, apical surface slightly impressed, front margin with slight prominence in middle; clypeal foveae small, sharp; labrum long, triangle, some narrower than front margin of clypeus; middle field of face high elevated, breadth in middle 1,5 times narrower than lateral fields; antennal cavities small, deeply impressed, almost reach borders of eyes but far not reach front ocellus level, laterally without tubercles and with distinct interantennal tubercle; frons under front ocellus with sharp longitudinal impression; ocelli quite big, distinctly convex, diameter of lateral ocellus 1,4 times less than distance from ocellus to eye; ocellar triangle expressed. Face and clypeus with large, smoothed punctures; frons on border with antennal cavities transversally wrinkly-punctured with microsculpture; temples with smooth punctures. Head with long sparse white pubescence.

Thorax : Collar of pronotum long with straight front margin (from above); transverse furrow of pronotum narrow, deep, not interrupted by keel; pronotal ridge not thickened; epomia sharp; pronotal base gradually curved, almost straight. Mesonotum slightly convex, 1,2 times longer than width; notauli only just marked at base; surface of mesonotum very densely sculptured by superficial punctures with shagreen intervals between them and slight shine; axillary tongue developed; subalarum high, narrow, sharpened at hind half; prepectal carina sharp, not reach pronotum, strongly curved backwards so, that considerably part of prepectus visible from lateral; speculum shining, only dorsally with separate big punctures, polished; mesopleural fovea and area around it, deeply impressed; mesopleural suture straight, deep, interrupted by strong ribs; mesopleurae without distinct bend; sternauli not developed; apical margin of mesosternum strongly elevated; scutellum high elevated at base, evenly slanted to postscutellum, not carinated laterally, horizontal surface smooth, shining, superficially densely punctured. Hind margin of metanotum with sharp triangle projections opposite lateral longitudinal carinae. Propodeum from lateral convex, steeply and gradually sloping from base of area

superomedia to apex; area superomedia rectangular, elongated, with slightly rounded front margin, from behind more or less distinctly limited; costulae behind middle, more or less distinct; basal area of moderate length, deep, with distinct lateral carinae; coxal carina sharp; carinae of apical part of propodeum high elevated; spiracles long, slit-shaped, 4,5 times longer than breadth. First lateral field and mesopleurae punctured by big punctures, second lateral field and area spiraculifera wrinkly-punctured to wrinkled. Surface of thorax with long white pubescence.

L e g s : Slender, long. Claws large, smooth, sharply, curved at apical third, slightly broadened at base.

W i n g s : Areolet pentagonal with very narrow base, practically quadrangular, symmetrical; stigma rather narrow, dark; radial cell narrow and long, radius sinuous at base and slightly at apex; nervulus interstitial; ramulus long; veins of both of wings dark; membrane of wing hyaline. Length of front wing 1,6 times shorter than body length.

A b d o m e n : Abdomen from above long, fusiform, almost parallel-sided with distinct constrictions between tergites 2-4; second tergite from above with length in middle equal to width at apex. First tergite from lateral with gradual passage to postpetiolus, carinated laterally and sculpturated by sharp transversal ribs; from above petiolus gradually broadened to postpetiolus; distance between spiracles distinctly more than distance from spiracles to hind margin of tergite; middle field of postpetiolus sharply elevated and carinated, wider than lateral fields, its surface sharply longitudinally striated, central part sometimes with impression. Gastrocoeli very deep and slightly oblique; thyridiae only just expressed, practically absent, slightly narrower or equal to interval between them; lunulae only just marked; interspace between gastrocoeli and tergites 2-3 in middle with sharp longitudinal wrinkles weakened to apex, other part of tergites and tergite 4 with very dense puncturation with microsculpture between punctures, tergites 5-6 with superficial puncturation, tergite 7 smooth. Paramerae from lateral narrow, sharpened to apex. Tergites of abdomen with short yellowish pubescence.

C o l o r a t i o n : Head and thorax black with brightly-white pattern; white: margins of clypeus and lateral fields of face, lower margins of frons partially, spots on vertex, mandibles, labrum and maxillary palps, collar and hind corners of pronotum, spots on subalarum and tegulae, scutellum entirely and postscutellum in part. Abdomen with exception of darkened base of first tergite entirely red, always without darkened apex or any parts of tergites. Coxae and femora of all legs predominately black, front femora white inside; tibiae of front and middle legs predominately brightly-white from the outside, hind with white annulus; tarsi of front and middle legs predominantly white, metatarsus of hind tarsi entirely white.

S i z e : Body length: 14,9-15,6; flagellum: 9,3-9,5; front wing: 10,5-11,3 mm.

D i s c u s s i o n : The species is very similar to *Coelichneumon haemorrhoidalis* (GRAVENHORST). The main differences are related primarily to the coloration, especially in males. Originally, we considered this species as an expression of intraspecific polymorphism of *C. haemorrhoidalis*. However, the particularities of morphology of males of *C. torsor* are obvious enough.

**The differential diagnosis of males of *Coelichneumon haemorrhoidalis*
(GRAVENHORST) and *C. torsor* (THUNBERG)**

<i>Coelichneumon haemorrhoidalis</i>	<i>C. torsor</i>
1. Flagellum entirely dully-black with tyloides of the same color.	Flagellum ventrally reddish-brown with brightly-white annulus and saturated black tyloides.
2. Collar of pronotum without white pattern.	Collar of pronotum white.
3. Scutellum black, or at most, with two white spots on the top; subalarum black.	Scutellum entirely white, postscutellum with white pattern; subalarum with white spot.
4. Area superomedia from behind not limited by carina.	Area superomedia from behind distictly limited by carina.
5. Metatarsus reddish-brown.	Metatarsus and base of hind tibiae white.
6. Tergites of abdomen with black pattern, developed in different degree.	Abdomen with exception of base of 1 st tergite entirely brightly-red.
7. Paramerae from lateral broad with rounded apex.	Paramerae from lateral narrow, narrowed to apex.

E c o l o g y : Both species have one generation per year. Dynamics of theirs seasonal activity is different to some extent. The females and males of *Coelichneumon haemorrhoidalis* appear in nature somewhat earlier than *C. torsor*.

The beginning of activity of males of *Coelichneumon haemorrhoidalis* in ecosystems adjacent to the raised bogs is observed in the first half of May. Their activity is being completed at the end of June – beginning of July. Seasonal activity of males of *C. torsor* takes shorter period. Males are individually registered only in late May, reaching a sharp peak in the second half of June (71%). Seasonal activity of males ends by middle of July.

Unlike *Coelichneumon haemorrhoidalis*, females *C. torsor* appear in nature later, in late June. The peak of their activity is in July. Their activity ends in late July, early August.

Thus, both species are differed not only morphologically, but also by biotopical preference as well as dynamics of the activity.

***Hybophorellus injucundus* (WESMAEL) (Plate 3)**

Amblyteles injucundus WESMAEL 1854 - Bull. Acad. Sci., Belgique **21**: 119, ♀.

Amblyteles duplicator: ROMAN 1923 - Entom. Monthly Mag. **59**: 30, ♀.

Hybophorellus duplicator: HEINRICH 1949 - Mitt. Münch. Ent. Ges. **35-39**: 49-50, ♀ ♂.

Hybophorellus injucundus: PERKINS 1953 - Bull. Brit. Mus. (Nat. Hist.) **3** (4): 118.

Hybophorellus injucundus: HEINRICH 1962 - Syn. Nearct. Ichn. Stenop. **26**: 563-564.

Hybophorellus injucundus: RASNITSYN 1981 - Opr. Faun. SSSR **3** (3): 624.

I n t r o d u c t i o n

Hybophorellus SCHULZ 1911 is a genus with uncertain taxonomic position in the tribe Ichneumonini (HEINRICH 1962). A number of signs point to belonging of the genus to Hoplisemenina subtribe. Clypeus, convex almost the height of middle field of face, mandibles that are characteristic both for Hoplisemenina and Platylabini too, highly elevated (especially at males) scutellum and developed teeth of propodeum are

characteristic for Hoplismenina. A.P. RASNITSYN (1981), proceeding from amblypygous abdomen of females, conditionally placed the genus in the subtribe Amblytelina. However, amblypygous abdomen is also characteristic for oriental genus *Amblysmenus* HEINRICH (Hoplismenina) (HEINRICH 1975; Fig. - TERESHKIN 1997). Proceeding from the named features, the point of view of D.S. YU and K. HORSTMANN (1997) about the genus belonging to Hoplismenina subtribe, should be considered well-founded.

M o r p h o l o g y

F e m a l e

F l a g e l l u m : Bristle-shaped, with 34-35 segments, moderately thick, first segment 4,4 times longer than the width at apex, segment 8 square from lateral; segments at a most part distinctly separated (differentiated) with white semiannulus on segments (6)7-9(10), beyond it distinctly thickened and flattened ventrally.

H e a d : Head contour from front quite strongly and more or less uniformly narrowed downwards, slightly transverse, only 1,2 times wider than height; genae from front (malar space) 3,7 times shorter than height of an eye (0,3), visible from front on 0,2 from base of an eye; head contour from above transverse, 1,8 times wider than length on external contour, slightly sinuously narrowed backwards behind eyes (temples only just convex). Vertex from lateral linearly sloping from hind border of ocelli to occipital carina; temples long, in middle 1,1 times longer than longitudinal diameter of an eye, below middle almost parallel to hind margin of an eye (only just narrowed), at lower half obliquely striated; genae above abscissula slightly impressed; occipital carina sharp all round, from above strongly roundly impressed, but far not reach level of eyes and hind ocelli; hypostomal carina only just visible from lateral, meeting with occipital carina far before base of mandible; abscissula equal 0,2 of mandible base width; malar space 1,1 longer than mandible base width; mandibles narrow, parallel-sided at a most part, slightly broadened toward apex with two weak teeth, lower tooth shorter than upper one; clypeus convex approximately on height of middle field of face, 1,7 times wider than length, with straight front margin and distinct lateral corners, separated from face by deep impression; clypeal foveae large, deep; labrum equal by breadth to front margin of clypeus, rounded, rather long; middle field of face short, distinctly elevated, in middle 1,3 times narrower by breadth than lateral fields; antennal cavities short, quite deeply impressed, reach borders of eyes and far not reach front ocellus level, with distinct lateral tubercles and with weak tubercle between antennal fossae; margins of antennal fossae high elevated above face surface; ocelli of normal size, diameter of lateral ocellus 1,8 times lesser than distance from ocellus to eye; ocellar triangle distinctly elevated. Surface of clypeus with big deep smoothed punctures, polished between punctures, middle and lateral fields densely punctured with developed microsculpture, frons smoothly wrinkly-punctured; temples with developed microsculpture; malar space with rough microsculpture.

T h o r a x : Collar of pronotum from above short, with rounded front margin; transverse furrow of pronotum deep, narrow; pronotal ridge not swollen, narrow; pronotum impressed almost to upper margin; epomia almost not expressed, only just higher than transversal wrinkles behind them; pronotal base gradually curved, slightly sinuous, rather strongly swollen; central part of pronotum with transversal wrinkles, upper third densely punctured, to slightly wrinkled. Mesonotum moderately convex, with equal length and breadth; notauli absent, only in a form of only just visible wrinkling at their place some different from adjoining surface; surface of mesonotum densely punctured, with

microsculpture in a front part; lateral furrow of mesonotum sharp, deep; axillary tongue not expressed or only just visible expressed; subalarum high, narrow, not sharpened or only just visible sharpened from behind; speculum with sparse punctures; area of mesopleural fovea deeply and roundly impressed; mesopleural suture straight, deep, interrupted by sharp ribs; mesopleurae at bottom with smoothed bend; sternauli in a form of indistinct impressions; surface of mesopleurae at a most part densely punctured by big punctures, with slight microsculpture at a lower part; scutellum convex, from lateral distinctly elevated above postscutellum and gradually sloped backwards, laterally not carinated, its surface punctured by big punctures. Hind margin of metanotum with broad triangle projections opposite of lateral longitudinal carinae. Length of horizontal part of propodeum 2,5 times lesser than length of area posteromedia in middle; carinae of propodeum with exception of coxal carina expressed; costulae and lateral carinae of basal area weak; basal area short and deep with convex surface; area superomedia from horseshoe-shaped to semioval, costulae behind middle; carina dentipara exteriores with sharp bend behind spiracles; areae dentiparae at apices with teeth; spiracles big, long, moderately broad, along external contour 2,5 times longer than width. Surface of propodeum in front half of horizontal part densely and roughly punctured, at hind part wrinkled; metapleurae roughly and densely punctured, without microsculpture.

L e g s : Moderately stout, hind coxae from below densely punctured, shining, without scopa. Claws rather narrow and long, smoothed, uniformly curved and slightly thickened at base.

W i n g s : Areolet big, pentagonal, symmetrical with wide base; stigma normal (not narrow and not broadened), dark; radial cell normal; radius almost straight, slightly curved only at apex; nervulus slightly postfurcal; ramulus distinct; all veins dark; membrane of wing hyaline. Front wing 1,4 times longer than body length.

A b d o m e n : Amblypygous, from above elongated-oval, tergite 7 only just protrude from under 6, sheath of ovipositor from above not protrude or only just visible; second tergite transverse, at apex 1,3 times wider than length in middle. First tergite from lateral with distinct, but smoothed bend between petiolus and postpetiolus, from lateral sharply bordered by carinae and with strong transversal ribs between them; from above petiolus sharply broadened to triangular postpetiolus; distance between spiracles 1,6 times more than distance from spiracles to hind margin of tergite; middle field of postpetiolus distinctly expressed but slightly elevated at hind part, almost two times wider than lateral fields; its surface delicately longitudinally-striated, lateral fields sinuously-wrinkled. Gastrocoeli small, slightly impressed, short; thyridia weak, but distinct 1,5 times narrower than interval between them; lunulae distinct, quite big, situated at hind third of tergite; surface of second tergite including interval between gastrocoeli very densely punctured by big, almost merged punctures; interspaces between punctures at hind part of third tergite slightly coriaceous, tergite 4 with weak superficial puncturation, others tergites smooth. Hypopygium not compressed from sides, triangular from below and from side, reach apices of ovipositor sheath, with membranous hind margin, without bunch of long stiff bristles at apical part; sternites 2-3 strongly unsclerotized with longitudinal fold.

C o l o r a t i o n : Body black, apex of first tergite and tergites 2-3 of abdomen red, scutellum reddish. Coxae and trochanteres of all the legs and most part of hind femora black, other parts of legs red.

S i z e : Body length: 10,0; front wing: 7,2 mm.

M a l e

Habitually, males are more slender with more long and thin legs and flagellum.

F l a g e l l u m : Slender, bristle-shaped, with 36 segments, with big broadly-oval tyloides on segments 3-22 and white semiannulus on segments 11-15; segments of flagellum not ribbed, distinctly differentiated, especially at apical half. Flagellum equal by length to front wing.

H e a d : Same as of female. Temples from middle more distinctly narrowed downwards. Striation of genae indistinct, more smoothed than of females. Palapae more long and slender.

T h o r a x : Epomiae of males, in contrast to females, sharp, pronotal base more swollen, pronotum without transverse wrinkles behind epomiae. Scutellum sharply elevated, very high; area superomedia almost square, rounded in front, costulae fully absent.

L e g s : Long and slender.

A b d o m e n : Middle field of postpetiolus more slightly elevated, punctured by smoothed punctures with only just visible wrinkling.

C o l o r a t i o n : Scutellum entirely black, tergites 2 and 3 medially darkened. In the rest as at females.

S i z e : Body length: 11,0; flagellum: 8,5; front wing: 8,5 mm.

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Zusammenfassung

Vorliegende Arbeit behandelt die Systematik und Ökologie von *Coelichneumon torsor* (THUNBERG 1822) (Hymenoptera, Ichneumonidae, Ichneumoninae) an ihrer südlichen Verbreitungsgrenze. Die morphologische Abgrenzung zur nahe verwandten Art *C. haemorrhoidalis* (GRAVENHORST 1820) wird diskutiert, die Unterschiede werden grafisch illustriert. Ebenso wird *Hybophorellus injucundus* (WESMAEL 1854) in beiden Geschlechtern beschrieben und in Bildern dargestellt.

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Legends to color plates

(1) imago; (2) head from above; (3) head from front; (4) propodeum; (5) segments 1-2 of abdomen; (6) mandible.

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Plate 1: *Coelichneumon torsor* (THUNBERG), ♀.

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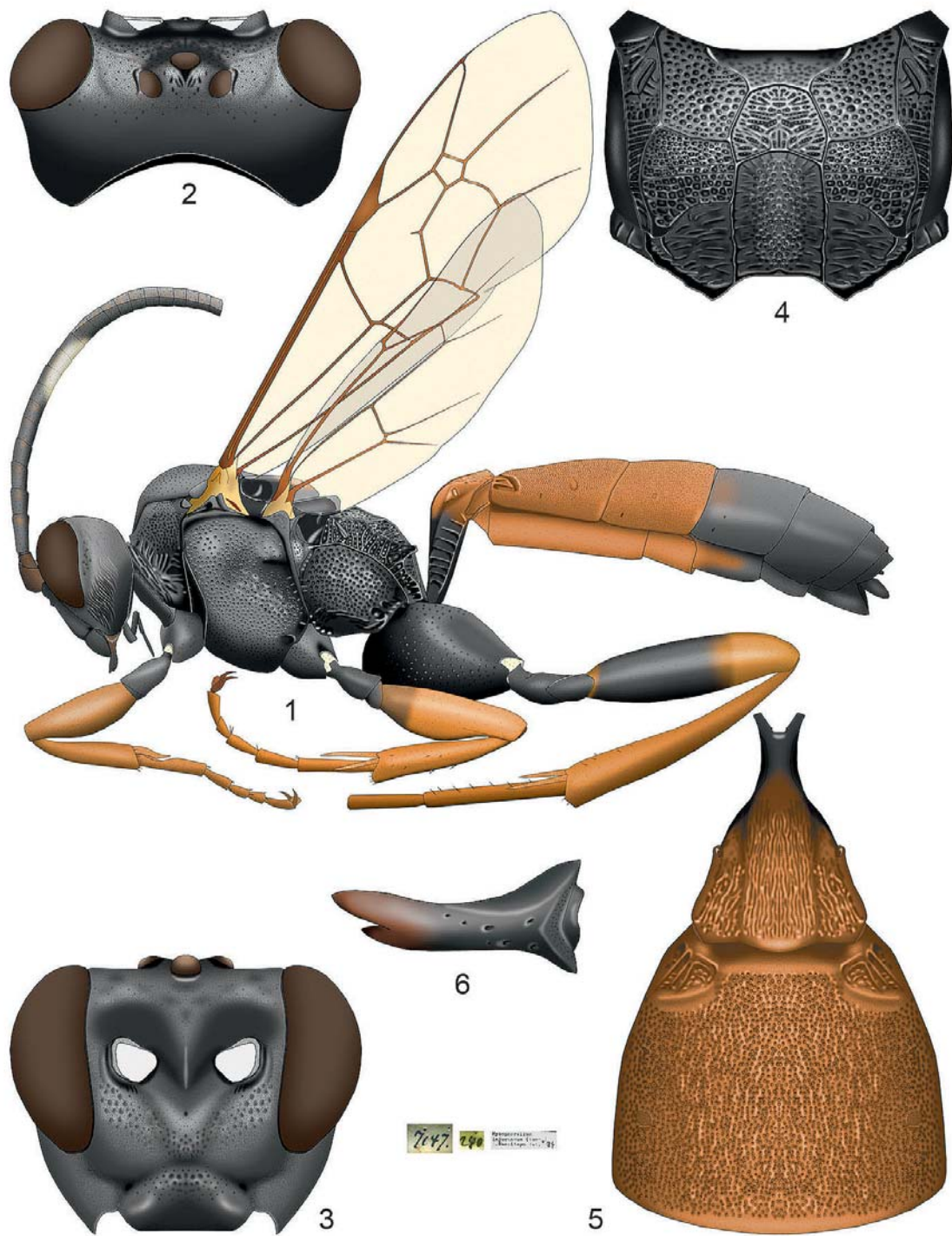


Plate 3: *Hybophorellus injucundus* (WESMAEL), ♀.